

Bangladesh Power Development Board
DAILY ELECTRICITY GENERATION REPORT

Office of the Member, Generation
Tel: 9564667, 9551095

Month December, 2020		8400 MW		Day: Thursday		Date: 17.12.20						
Probable Maximum Demand :		8400 MW		Probable Maximum Generation :		13510 MW						
Water Level of Kaptai Lake at 06:00 AM		Yesterday = 99.15 ft		Today = 99.08 ft		Rule Curve = 104.60 ft						
Sl. No.	Name of Power Station	Nos. of Unit X Capacity (MW)	Installed Capacity (MW)	Derated/ Present Capacity (MW)	16.12.20 (Yesterday)		17.12.20 (Today)		16.12.20 (Yesterday) Gen. shortfall for : Gas/water/Coal limitation MW	17.12.20 (Today) Machines shut down (MW)	Status of Machines under shut-down/ Maintenance Description/ Remarks	Probable start-up date
					Actual Power Generation (MW)		Probable Peak Generation (MW)					
					Day	Evening	Day	Evening				
(A) Plants in operation:												
1	a) Ghorasal TPP (Unit-1&2)	Gas (PDB)	2 x 55	110	85	0	0	0	0			
	b) Ghorasal Repowered CCPP Unit-3	Gas (PDB)	1 x 210	210	170	0	0	0	0		85	Under maint.
	c) Ghorasal Repowered CCPP Unit-4	Gas (PDB)	1 x 210	210	180	0	0	0	0		170	Under maint.
	d) Ghorasal TPP Unit-5	Gas (PDB)	1 x 210	210	190	115	115	115	115	75	180	STG Commissioning Gas Shortage
2	Ghorasal 365 MW CCPP Unit-7	Gas (PDB)	1x 254+1x 126	365	365	300	300	300	300			
3	Ghorasal 108MW PP (Regent)	Gas (IPP)	34x3.35	108	108	96	98	100	100			
4	Ghorasal 78.5 MW PP(MAX)	Gas (QRPP)	2x40	78	78	0	0	0	0	78		Gas Shortage
5	Tongi 80 MW GTPP	Gas (PDB)	1 x 105	105	105	0	0	0	0	105		Gas Shortage
6	Haripur GTTP	Gas (PDB)	1 x 32	32	20	0	0	0	0	20		Gas Shortage
7	Haripur 360MW CCPP(HPL)	Gas (IPP)	1x235+1x125	360	360	254	365	360	360			
8	Meghnaghat 450 MW CCPP(MPL)	Gas (IPP)	2x140+1x170	450	450	350	370	450	450			
9	210 MW Siddhirgonj TPP	Gas (PDB)	1 x 210	210	115	0	0	0	0		115	Under Overhauling
10	Haripur 412 MW CCPP	Gas (EGCB)	1x273+1x139	412	412	375	350	412	412			
11	Siddhirgonj 2*120 MW GTTP	Gas (EGCB)	2 x 105	210	210	0	0	0	0	210		Gas Shortage
12	Siddhirgonj 335 MW CCPP	Gas (EGCB)	1 x 217+1x118	335	335	0	0	0	0		335	Under maint.
13	Siddhirgonj 100 PP(Dutch Bangla)	HFO (QRPP)	12x8.9	100	100	0	0	100	100			
14	Meghnaghat CCPP(Summit)	GAS (IPP)	2x110+1x110	305	305	0	0	0	0	305		Gas Shortage
15	Meghnaghat 100 MW(EL)	HFO (QRPP)	12x8.9	100	100	50	93	100	100			
16	Madanganj 102 PP(Summit)	HFO (QRPP)	6x17	102	100	0	0	100	100			
17	Madanganj-55 MW PP(Summit)	HFO (IPP)	5x17.08+1x11.3	55	55	0	15	55	55			
18	Keraniganj 100 MW PP (Powerpac)	HFO (QRPP)	8x13.45	100	100	0	30	100	100			
19	Gagnagar 102 MW PP (Digital Pow)	HFO (IPP)	12x8.924	102	102	0	0	100	100			
20	Narshingdi 22 MW PP (Doreen)	Gas (SIPP, REB)	8x2.90	22	22	16	16	16	16			
21	Summit Power, (Madhabdi+Ashulia)	Gas (SIPP, REB)	6x3.67+1x8.73	80	80	45	56	58	58			
22	Maona 33 MW PP(Summit)	Gas (SIPP, REB)	4x8.73	33	33	25	25	25	25			
23	Rupganj 33 MW PP(Summit)	Gas (SIPP, REB)	4x8.73	33	33	33	33	33	33			
24	Gazipur 52 MW PP	HFO (RPCL)	6x8.90	52	52	0	0	52	52			
25	Gazipur 100 MW PP	HFO (RPCL)	6x18.415	105	105	0	0	105	105			
26	Kodda 150MW PP	HFO (BPDB-RPCL)	9x17.06	149	149	0	0	150	150			
27	Katpott 52 MW PP (Sinha)	HFO (IPP)	7x7.90	51	51	0	0	50	50			
28	Kamalaghat 54 MW PP (Banos Energy)	HFO (IPP)	3x18.69	54	54	54	54	54	54			
29	Kodda 300 MW PP Unit-2 (Summit)	HFO (IPP)	18x17.076	300	300	0	95	300	300			
30	Kodda 149 MW PP Unit-1 (Summit)	HFO (IPP)	8x18.415+1x8.97	149	149	0	15	149	149			
31	Keraniganj 300 MW PP (APR)	HSD (IPP)	25x6.14	300	300	0	0	100	300			
32	Bramhangon 100 MW PP (Aggreko)	HSD (IPP)	23x0.85+9x1.959	100	100	0	0	50	100			
33	Auraha 100MW PP (Aggreko)	HSD (IPP)	23x0.85+9x1.959	100	100	0	0	60	100			
34	Nababganj 55 MW PP (Southern po)	HFO (IPP)	3x19.3	55	55	0	0	55	55			
35	Manikganj 55 MW PP (Northern)	HFO (IPP)	3x19.3	55	55	0	55	55	55			
36	Bosila 108MW PP(CLC)	HFO (IPP)	12x8.775+1x3.5	108	108	0	0	0	0			
37	Meghnaghat 104 MW PP (OPSL)	HFO (IPP)	6x18.5	104	104	53	90	90	90			
38	Manikganj 162MW PP(MPLG)	HFO (IPP)	9x18	162	162	0	0	0	0			
Dhaka Zone Total				6281	6057	1766	2175	3694	3984	793	885	
39	Karnaphuli Hydro PP Unit-1,2,3,4, 5	Hydro (PDB)	2x40, 3x50	230	230	49	46	44	46	184		Low Water Level Gas Shortage
40	a) Chattogram TPP-1	Gas (PDB)	1 x 210	210	180	0	0	0	0	180		Under maint.
	b) Chattogram TPP-2	Gas (PDB)	1 x 210	210	180	0	0	0	0			
41	Kaptai 7 MW Solar PP	Solar (PDB)	7	7	7	4	0	5	0			
42	Raozan 25 MW PP	HFO (RPCL)	3x8.9	25	25	0	0	25	25			
43	Teknaf 20MW PP (Solartech)	Solar (IPP)	1x20	20	20	18	0	20	0			
44	Patenga 50MW PP (Baraka)	HFO (IPP)	8x6.89	50	50	25	50	50	50			
45	Sikalbaha 105 MW PP (Baraka Sike)	HFO (IPP)	6x18.415	105	105	0	0	100	100			
46	Sikalbaha Peaking GT	Gas (PDB)	1 x 150	150	150	0	0	0	0	150		Gas Shortage
47	Sikalbaha 225 MW CCPP	Gas (PDB)	1 x 150+1 x 75	225	225	211	203	215	225			
48	Anwara 300 MW PP (United)	HFO (IPP)	17x17.076+ 3x8.04	300	300	70	157	300	300			
49	Juldah 100 MW Unit-1 (Acorn)	HFO (QRPP)	8x13.45	100	100	0	0	100	100			
50	Juldah 100 MW PP Unit-3 (Acorn)	HFO (IPP)	8x13.45	100	100	20	100	100	100			
51	Dohazari -Kalaish 100 MW Peaking	HFO (PDB)	6x17.0	102	102	0	34	85	85			
52	Hathazari 100 MW peaking PP	HFO (PDB)	11x8.9	98	98	0	0	0	0			
53	Barakunda 22 MW PP (Regent)	Gas (SIPP, PDB)	8x2.90	22	22	17	16	16	16			
*	Malancha, Ctg EPZ (Unites)	Gas	5x8.73+3x9.34			20	22	10	20			
54	Chattogram 108 MW PP (ECPV)	HFO (IPP)	16x7.00	108	108	0	0	102	102			
55	Sikalbaha 54 MW Power Plant(Jodiac Power)	HFO (IPP)	3x18.55+1x3.6	54	54	36	54	54	54			
56	Karnaphuli Power Ltd.	HFO (IPP)	6x18.41+1x6.4	110	110	0	0	110	110			
57	Juldah unit-2 (Acorn)	HFO (IPP)	8x13.6	100	100	0	50	100	100			
	Anlima Energy Ltd.	HFO (IPP)				0	0	0	0			
Chattogram Zone Total				2326	2266	470	732	1436	1433	514	180	
58	a) Ashuganj TPP Unit- 3	Gas (APSCL)	1 x 150	150	135	0	0	0	0	135		Gas Shortage
	b) Ashuganj TPP Unit- 4	Gas (APSCL)	1 x 150	150	129	100	120	120	120	9		Gas Shortage
	c) Ashuganj TPP Unit- 5	Gas (APSCL)	1 x 150	150	134	0	0	0	0	134		Gas Shortage
59	Ashuganj 50 MW PP	Gas (APSCL)	14x3.968	53	45	26	26	26	26			
60	Ashuganj 225 MW CCPP	Gas (APSCL)	1x142+1*75	221	221	195	183	221	221			
61	Ashuganj 450 MW CCPP(South)	Gas (APSCL)	1x360	360	360	0	0	0	0	360		Was Under maint.
62	Ashuganj 450 MW CCPP(North)	Gas (APSCL)	1x361	360	360	0	0	0	0	360		Under maint.
63	Ashuganj 55 MW PP (Precision)	Gas (RPP)	15*4	55	55	5	54	20	55			
64	Ashuganj 195MW PP (APSCL-United)	Gas (IPP)	20*9.73+1*16	195	195	45	76	45	45	119		Gas shortage
65	Ashuganj 51 MW PP (Midland)	Gas (IPP)	6x9.34	51	51	51	51	51	51			
66	Ashuganj 150MW PP (Midland)	HFO (IPP)	23x7.015	150	150	20	143	150	150			
67	Titas 50 MW Peaking PP	HFO (PDB)	6x8.92	52	52	0	0	0	50			
68	Chandpur 150 MW CCPP	Gas (PDB)	1X106+1x57	163	163	80	52	60	60			
69	Chandpur 200MW (Desh energy)	HFO (IPP)	12x18.415	200	200	34	68	200	200			
70	Feni 22MW PP (Doreen)	Gas (SIPP, PDB)	8x2.90	22	22	21	21	22	22			
71	Feni 11 MW PP (Doreen)	Gas (SIPP, REB)	4x2.90	11	11	8	11	11	11			
72	Jargalia 33MW PP (Summit)	Gas (SIPP, PDB)	4x8.73	33	33	25	25	25	25			
73	Jargalia 52 MW PP (Lakdanavi)	HFO (IPP)	6x8.92	52	52	0	0	52	52			
74	Cumilla 25 MW PP (Summit)	Gas (SIPP, REB)	3x3.67+2x6.97	25	25	15	20	20	21			
75	Daudkandi 200 MW PP (B.Trac)	HSD (IPP)	9x1.4+4x1.515+15x1.05	200	200	0	0	0	0			
76	Feni 114 MW Power Plant(Lakdanavi)	HFO (IPP)	7*18.415+1*9.78	114	114	0	0	114	114			
77	Chowmuhani 113 MW	HFO (IPP)	12*9.78+2*3.1	113	113	0	0	113	113			
**	Impoort (Tripura)	India		160	160	74	90	139	148			
Cumilla Zone Total				3040	2980	699	940	1389	1684	757	360	
78	RPCL 210MW CCPP	Gas (IPP)	4x35+1x70	210	202	161	161	150	160	41		Gas Shortage
79	Tangal 22 MW PP (Doreen)	Gas (SIPP, PDB)	8x2.90	22	22	20	20	20	20			
80	Jamalpur 95 MW PP(Powerpac)	HFO (IPP)	12x8.924	95	95	0	0	95	95			
81	Jamalpur 115 MW PP (Unites)	HFO (IPP)	12x9.87	115	115	55	85	115	115			
82	Mymensingh 200 MW PP (Unites)	HFO (IPP)	21x9.780	200	200	0	0	200	200			
83	Sarishabari 3 MW Solar Plant	Solar (IPP)	12x8.924	3	3	2	0	1.6	0			
84	Sutiaikhal 50 MW Solar PP	Solar (IPP)	1x50	50	50	40	0	50	0			
	Tangail 22 MW PP(Pali Power Gen)	HFO (SIPP)				26	26	26	26		</	

Sl. No.	Name of Power Station	Nos. of Unit X Capacity (MW)	Installed Capacity (MW)	Derated/ Present Capacity (MW)	16.12.20 (Yesterday)		17.12.20 (Today)		16.12.20 (Yesterday)		Status of Machines under shut-down/ Maintenance		
					Actual Peak Generation (MW)		Probable Peak Generation (MW)		Gen. shortfall for :		Description/ Remarks	Probable start-up date	
					Day	Evening	Day	Evening	Gas/water/Coal limitation MW	Machines shut down (MW)			
85	Fenchugon] CCPP Phase-1	Gas (PDB)	2x32+1x33	97	70	30	30	30	30				
86	Fenchugon] CCPP Phase-2	Gas (PDB)	2x35+1x35	104	90	43	43	43	43				
87	Fenchugon] 51 MW PP (Barakatuli)	Gas (RPP)	19x2.90	51	51	52	47	51	51				
88	Fenchugon] 44MW (Energyprima)	Gas (RPP)	12x3.3+5x2.0	44	44	44	49	44	44				
89	Kushiana 163 MW CCPP (KP)	Gas (IPP)	1x109+1x54	163	163	130	130	163	163				
90	Hobiganj 11MW PP Confidence-E	Gas (SIPP, REB)	4x2.90	11	11	2	11	11	11				
91	Shahjibazar GTPP Unit- 8 & 9	Gas (PDB)	2x35	70	66	35	36	36	36				
92	Shajibazar 330 MW CCPP	Gas (PDB)	2x110+2x110	330	330	118	120	150	150	210		Gas Shortage	
93	Shahjibazar 86MW PP (Shahjibazar)	Gas (RPP)	32x2.90	86	86	76	77	86	86				
94	Sylhet 225 MW CCPP	Gas (PDB)	1x142+1x89	231	231	132	120	130	130				
95	Sylhet 20 MW GTPP	Gas (PDB)	1 x 20	20	20	0	18	20	20				
96	Sylhet 50MW PP (EPL)	Gas (RPP)	27x2.0	50	50	0	0	0	0				
97	Sylhet 10MW PP (Desh)	Gas (RPP)	6x1.95	10	10	0	0	0	0				
98	Shahjahanulla 25 MW PP	Gas (CIPP, REB)	3x3.34	25	25	15	16	16	16				
99	Bibiana-II 341 MW CCPP (Summit)	Gas (IPP)	1x222+1x119	341	341	0	0	0	0				
100	Bibiyana-II 400 MW CCPP	Gas (PDB)	1x285+1x115	400	400	140	120	120	120				
	Bibiyana South 400 MW	Gas (PDB)				281	300	300	300				
	Shahjibazar 100 MW GTPP	Gas (PDB)				0	0	0	0				
	Sylhet Zone Total			2033	1988	1098	1117	1200	1200	210	0		
101	Bheramara GTPP Unit- 3	HSD (PDB)	1 x 20	20	16	0	0	0	16				
102	Bheramara 410 MW CCPP	Gas (NWPGL)	1 x 278+ 1 x 132	410	410	400	345	410	410				
103	Faridpur 50 MW Peaking PP	HFO (PDB)	8x6.98	54	54	0	0	25	25				
104	Gopalganj 100 MW Peaking PP	HFO (PDB)	16x6.98	109	109	0	0	65	65				
105	Khulna 225 MW CCPP	HSD (NWPGL)	1 x 150+1x75	230	230	0	0	0	220				
106	Khulna 115 PP MW (KPC-2)	HFO (QRPP)	7x17	115	115	0	0	115	115				
107	Noapara 100 MW PP (Bangla Trac)	HSD (IPP)	70x1.4+7x1.515	100	100	0	0	0	100				
108	Noapara 40 MW PP (Khanjahan Ali)	HFO (QRPP)	5x8.5	40	40	0	0	40	40				
109	Rupsha 105 MW PP (Orion rupsha)	HFO (IPP)	6x18.445	105	105	17	90	90	90				
110	Madhumati 100 MW PP	HFO (NWPGL)	6x18.415	105	105	0	0	100	100				
**	Bheramara (HVDC)	India		1000	1000	317	509	551	792				
	Khulna Zone Total			2288	2284	734	944	1396	1973	0	0		
111	Barisal 110 MW PP (Summit)	HFO (IPP)	7 x 17.076	110	110	0	48	110	110				
112	Bhola 33 MW PP (Venture)	Gas (RPP)	1x34.50	33	33	19	27	26	27				
113	Bhola 225 MW CCPP	Gas (PDB)	2x63+1x68	194	194	0	0	0	0	194		Under maint.	
114	Bhola 95 MW PP (Agreko)	Gas (QRPP)	1.1x96	95	95	13	13	95	95				
115	Payra 1320 MW Unit-1	Coal (BCPCL)	1x622	622	622	410	480	600	660				
	Bhola Nutan Biddut BD LTD	Gas/HSD (IPP)				10	35	35	35				
	United Payra Power Ltd.	HFO (IPP)				0	0	0	0				
	Barishal Zone Total			1054	1054	452	603	866	927	0	194		
116	a) Baghabari 71 MW GTPP	Gas (PDB)	1 x 71	71	71	0	0	0	0	71		Gas shortage	
	b) Baghabari 100 MW GTPP	Gas (PDB)	1 x 100	100	100	0	0	0	0	100		Gas Shortage	
117	Baghabari 50 MW Peaking PP	HFO (PDB)	6x8.9	52	52	0	0	0	50				
118	Baghabari 200 MW PP (Paramount)	HSD (IPP)	135x1.6	200	200	0	0	200	200				
119	Bera 70 MW Peaking PP	HFO (PDB)	9x8.29	71	71	0	0	0	40				
120	Annura 50 MW PP(Sinha)	HFO (QRPP)	7x7.79	50	50	0	0	34	34				
121	Chapainawabganj 100 MW Peaking	HFO (PDB)	12x8.924	104	104	0	87	100	100				
122	Katakhal 50 MW Peaking PP	HFO (PDB)	6x8.7	50	50	0	0	50	50				
123	Katakhal 50 MW PP (Northern)	HFO (QRPP)	6x8.9	50	50	0	0	50	50				
124	Santhar 50 MW Peaking PP	HFO (PDB)	6x8.7	50	50	0	0	0	34				
125	Sirajgonj 225MW CCPP Unit-1	Gas (NWPGL)	1x150+1x75	210	210	0	0	0	0	210		Gas Shortage	
126	Sirajgonj 225MW CCPP Unit-2	Gas (NWPGL)	1x150 + 1x75	220	220	0	0	0	0		220	Under maint.	
127	Sirajgonj 225MW CCPP Unit-3	Gas (NWPGL)	1x141+1x79	220	220	176	168	225	225				
128	Sirajgonj 400 MW CCPP Unit-4	Gas (IPP)	1x282+1x132	414	414	393	365	400	400				
129	Bogra 22 MW PP (GBB)	Gas (RPP)	6x4.0	22	22	22	22	22	22				
130	Bogra 20 MW PP (Energyprima)	Gas (RPP)	5x3.3+5x2.0	20	10	0	0	0	0				
131	Ullapara 11 MW PP (Summit)	Gas (SIPP, REB)	4x2.90	11	11	8	11	11	11				
132	Natore 52 MW PP (Rajlanka)	HFO (IPP)	6x8.92	52	52	0	0	52	52				
133	Bagura 113 MW PP (Confidence) Unit-1	HFO (IPP)	6'18.55	113	113	0	0	113	113				
134	Bagura 113 MW PP (Confidence) Unit-2	HFO (IPP)	6x18.55	113	113	0	90	113	113				
	Rajshahi Zone Total			2193	2183	599	743	1370	1494	381	220		
135	a) Barapukuria TPP Unit-1	Coal (PDB)	1 x 125	125	85	85	86	80	86				
	b) Barapukuria TPP Unit-2	Coal (PDB)	1 x 125	125	85	0	0	0	0	85		Coal Shortage	
136	Barapukuria 275 MW TPP Unit-3	Coal (PDB)	1 x 274	274	274	0	0	0	0		274	Under maint.	
137	Rangpur 20 MW GTPP	HSD (PDB)	1 x 20	20	20	0	0	0	0				
138	Rangpur 113 MW PP (Confidence)	HFO (IPP)	7'16x 2'3	113	113	0	47	113	113				
139	Saidpur 20 MW GTPP	HSD (PDB)	1 x 20	20	20	0	0	0	0				
140	Majpara, Tatulia 8 MW Solar PP (Sympa Pt)	Solar (IPP)	1 x 8	8	8	4	0	8	0				
	Rangpur Zone Total			685	605	89	133	201	199	85	274		
	Sub-total: Plants in operation			20595	20104	6211.0	7679	12210	13510	2781	2113		
	Available Power at Sub-station end excluding PIS auxiliary use and Transmission loss					5875	7263	11548	12778				
(B) Contract expired power plants													
	Sub-Total: Plants under long term maintenance			0	0	0	0	0	0				
	Gross Total			20595	20104	6211	7679	12210	13510	2781	2113		
(C) Actual data of 16.12.20 (Yesterday) Wednesday :													
01.	Max. Demand (Generation end)			7679.00	MW, at = 19:30 hrs	12. Zone wise Demand and Load-shed at Evening Peak (Sub-station end) :							
02.	Max. Demand (Sub-station end)			7263.00	MW, at = 19:30 hrs	Zone	Demand	Supply	Load Shed	Zone	Demand	Supply	Load Shed
03.	Highest Generation (Generation end)			7679.00	MW, at = 19:30 hrs	MW	MW	MW	MW	MW	MW	MW	MW
04.	Minimum Generation (Generation end)			5537.00	MW, at = 5:00 hrs	Dhaka	2305	2305	0	Mymensingh	622	622	0
05.	Day-peak Generation (Generation end)			6211.00	MW, at = 12:00 hrs	Chattogram	762	762	0	Sylhet	298	298	0
06.	Evening-peak Generation (Generation end)			7679.00	MW, at = 19:30 hrs	MW	973	973	0	Barishal	227	227	0
07.	Evening Peak Load-shed (Sub-station end)			0.00	MW, at = 19:30 hrs	Rajshahi	829	829	0	Rangpur	547	547	0
08.	Actual Minimum Generation up to 8:00 hrs.			4961.00	MW, at = 7:00 hrs and	Cumilla	700	700	0				
09.	Generation shortfall at evening peak due to :									Total	7263	7263	0
	a) Gas limitation			2512	MW	13.	Fuel cost :	(a) Gas = 120369991	Taka	(c) Coal = 62481551	Taka		
	d) Coal supply Limitation			85	MW			(b) Oil = 116855116	Taka		Total = 299706659	Taka	
	b) Low water level in Kaptai lake			184	MW								
	c) Plants under shut down/ maintenance			2113	MW	14.	Maximum Temperature in Dhaka was : 26.8° C						
10.	Total Energy (Generation + India Import)			152.55	MWWh	15.	Export through East-West interconnections :						
	By Gas = 110.674	MWWh		15.789	MWWh	At evening peak-hour : -264 MW, at 19:30 hrs							
	By Coal = 13.472	MWWh	By Hydro =	1.108	MWWh	Maximum : -487 MW, at 18:00 hrs							
	By Solar= 0.371	MWWh				Energy : 1.2545 MWWh							
11.	Total Gas Supplied			856.06	MMCFD								
(D) Forecast of 17.12.20 (Today) Thursday :													
01.	Maximum Demand			8400	MW (Generation end)	04.	Maximum Load-shed : 0 MW At evening peak (Sub-station end)						
02.	Maximum Generation			13510	MW (Generation end)	05.	Total Generation : 166.87 MWWh						
03.	Maximum Shortage			-5110	MW (Generation end)	06.	Probable Max. Temperature in Dhaka : 26.7° C						

* Captive Power ** Imported Power

#Remarks: Highest Generation 12893MW on 29-05-2019 at 21:00

(Fazul Islam Shaker)
Deputy Secretary, Generation